Distributing Iowa's Water Quality Data Using STORET and ArcIMS

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Biographical Sketch of Author
Joost received his master's degree in geology from the University of Iowa, and has worked in Iowa state government for 20 years in various roles including systems analyst, research geologist, geographic information specialist and IT network administrator. Joost is a member of the Geological Society of Iowa, a certified well operator and a Microsoft Certified Professional. As a member of the water monitoring staff at the Iowa Geological Survey, Joost provides expertise in both geology and IT data management (including STORET).

Abstract
Iowa's ambient water quality program is a diverse program responsible for the collection and analysis of information on the state's rivers, lakes, groundwater and wetlands. Physical, chemical, biological and habitat data are administered as part of this program. To handle this complex data set, the Iowa Department of Natural Resources (IDNR) is using the Environmental Protection Agency (EPA) database called STORET (STOrage and RETrieval). The DNR recognizes the need to have this data available to staff, other governmental organizations, and the public. A data warehouse was constructed that provides access to all DNR water monitoring data. The warehouse also includes data from participating organizations that choose to submit their data to the IDNR including: IOWATER (volunteer monitoring organization), Iowa State University, the Iowa District of the United States Geological Survey, Rathbun Watershed Alliance, the Corps of Engineers, and others. The warehouse relies on custom scripting developed by the IDNR to quickly pull data from various organizations and download the data via XML or text delimited files.
The warehouse also includes on-line graphing capabilities that allow users to quickly graph several parameters to track trends in water quality for projects such as Iowa's beach monitoring, high-flow stream monitoring, or groundwater trends monitoring. The warehouse has also been integrated into an ArcIMS environment. Combining the statewide water quality database with ArcIMS integrates disparate pieces into a more seamless framework.

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